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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Katsuo Sugahara

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EXAMINER

MCGUTHRY BANKS, TIMA MICHELE

ART UNIT

PAPER NUMBER

1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/546,130	Applicant(s) SUGAHARA, KATSUO	
	Examiner TIMA M. MCGUTHRY-BANKS	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 and 37-50 is/are pending in the application.
- 4a) Of the above claim(s) 46-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 37-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/28/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Newly submitted claims 46-50 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the fuel cell components as claimed in 46-50 were not previously presented in the claims. Claims 12 and 37-45 continue to read on a nickel alloy with specific use as a polymer electrolyte fuel cell.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, Claims 46-50 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 April 2008 has been entered.

Status of Claims

Claims 1-11 and 13-36 are cancelled, Claims 12 and 37-45 are currently amended, and Claims 46-50 are new.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12, 37 and 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan et al (2002/0172849 A1) in view of EP 0 303 957 (EP '957) and WO 97/43457 (WO '457).

Fan teaches a polymer electrolyte membrane fuel cell stack with a metal bipolar plate made of an alloy comprising nickel and chromium (abstract). The alloy contains Ni + Cr >50% and materials from the group consisting of C, Mn, Si, P, S, Mo Nb and Cu. The alloy is corrosion resistant with acids [0018]. Regarding Claims 37 and 44, the alloy is a structural member. Regarding Claims 41, 42 and 44, the bipolar plates read on a support plate member and a separator member. However, Fan does not teach the specific composition of the nickel alloy as in Claims 12, 43 and 45.

With respect to Claims 12 and 45, EP '957 discloses a corrosion resisting Ni-base alloy with generally 38-50% Cr and 0.1 to 2 wt % of at least one of Mo and W where the alloy can be used in applications including pipes (abstract). Table 1.1 shows examples of alloys. EP '957 discloses allowable impurity levels of 0.05 wt % or less Mg, and 0.3 wt % or less Mn (p. 3 lines 9-11). Further, EP '957 discloses that 0.3 wt % or less Fe may be included as impurity (p. 3 lines 9-11).

Regarding the limitation of a wrought nickel alloy in Claims 12 and 43, applicant intends for the process steps defined by "wrought" to be incorporated in the claim. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of

Art Unit: 1793

production. If the product in the product-by-process claim is the same or as obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP § 2113.

EP '957 does not disclose the inclusion of between 0.01 to 0.1 wt % Si. WO '457 discloses a substantially similar nickel alloy. WO '457 discloses that up to 0.95 wt % Si can be beneficially added to improve corrosion resistance (paragraph bridging pp. 5-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nickel alloy composition taught by EP '957 and WO '457 for the alloy taught by Fan et al, since EP '957 teaches that the alloy has excellent corrosion resistance and can be used as a pipe, or the like as well as an electrode (page 2, lines 11-14), such as acid (page 3, line 36). Further regarding Claim 40, it would be obvious to expect that the fasteners used in the fuel cell of Fan et al would also be made from the same alloy as taught by EP' 957 and WO '457 in order to achieve the same degree of corrosion resistance.

Claims 12, 37, 38 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al (US 2003/0124409) in view of EP '957 and WO '457.

Cramer et al teaches a fuel cell stack manifold system (abstract), such as polymer electrolyte fuel cells [0009]. Regarding Claims 37, 38 and 44, the manifold system components are constructed from corrosion-resistant materials such as nickel-based alloys [0010]. However, Cramer et al does not teach the specific composition of the nickel alloy as in Claims 12, 43 and 45.

With respect to Claims 12 and 45, EP '957 discloses a corrosion resisting Ni-base alloy with generally 38-50% Cr and 0.1 to 2 wt % of at least one of Mo and W where the alloy can be

Art Unit: 1793

used in applications including pipes (abstract). Table 1.1 shows examples of alloys. EP '957 discloses allowable impurity levels of 0.05 wt % or less Mg, and 0.3 wt % or less Mn (p. 3 lines 9-11). Further, EP '957 discloses that 0.3 wt % or less Fe may be included as impurity (p. 3 lines 9-11).

Regarding the limitation of a wrought nickel alloy in Claims 12 and 43, applicant intends for the process steps defined by "wrought" to be incorporated in the claim. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or as obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP § 2113.

EP '957 does not disclose the inclusion of between 0.01 to 0.1 wt % Si. WO '457 discloses a substantially similar nickel alloy. WO '457 discloses that up to 0.95 wt % Si can be beneficially added to improve corrosion resistance (paragraph bridging pp. 5-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nickel alloy composition taught by EP '957 and WO '457 for the alloy taught by Cramer et al, since EP '957 teaches that the alloy has excellent corrosion resistance (page 2, lines 11-14), such as for acids (page 3, line 36).

Claims 12, 37, 39 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akikusa et al (US 2003/0134174) in view of EP '957 and WO '457.

Akikusa et al teaches a solid electrolyte fuel cell module [0013] with a fuel gas supply pipe. The pipes used are made from nickel base alloy [0055] and [0172]. However, Akikusa et al does not teach the specific composition of the nickel alloy as in Claims 12, 43 and 45.

With respect to Claims 12 and 45, EP '957 discloses a corrosion resisting Ni-base alloy with generally 38-50% Cr and 0.1 to 2 wt % of at least one of Mo and W where the alloy can be used in applications including pipes (abstract). Table 1.1 shows examples of alloys. EP '957 discloses allowable impurity levels of 0.05 wt % or less Mg, and 0.3 wt % or less Mn (p. 3 lines 9-11). Further, EP '957 discloses that 0.3 wt % or less Fe may be included as impurity (p. 3 lines 9-11).

Regarding the limitation of a wrought nickel alloy in Claims 12 and 43, applicant intends for the process steps defined by "wrought" to be incorporated in the claim. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or as obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP § 2113.

EP '957 does not disclose the inclusion of between 0.01 to 0.1 wt % Si. WO '457 discloses a substantially similar nickel alloy. WO '457 discloses that up to 0.95 wt % Si can be beneficially added to improve corrosion resistance (paragraph bridging pp. 5-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nickel alloy composition taught by EP '957 and WO '457 for the alloy

Art Unit: 1793

taught by Akikusa et al, since EP '957 teaches that the alloy has excellent corrosion resistance and can be used in pipes (page 2, lines 11-14).

Conclusion

The double patenting rejection has been withdrawn in light of the amendment to the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

Application/Control Number: 10/546,130
Art Unit: 1793

Page 8

/T. M. M./
Examiner, Art Unit 1793
24 June 2008